

هيئة التقييس لدول مجلس التعاون لدول الخليج العربية
GCC STANDARDIZATION ORGANIZATION (GSO)

final draft

GSO 5/F DS / : 2011

القرنبيط (الزهر) المجمد سريعاً
Quick frozen cauliflower

Prepared by :
Gulf technical committee for standards of food and agriculture products

This document is a draft Gulf standard circulated for comments, it is therefore, subject to change, and may not be referred to it as a Gulf standard, until approved by the board of directors

ICS : 67.080

FORWARD

The Gulf Standardization Organization for GCC (GSO) is a regional organization which consists of the National Standards Bodies of GCC member States. One of GSO main functions is to issue Gulf Standards / Technical regulation through specialized technical committees (TCs).

GSO through the technical program of committee TC NO.5 "Gulf technical committee for standards of food and agriculture products " has prepared " Quick frozen cauliflower " the draft standard has been prepared by the state of Qatar. The draft standard has been prepared based on relevant ADMO, International and national foreign standards and references.

This standard has been approved as Gulf standard without any technical modifications by GSO Board of Direction in its meeting No.../....held on /
/ / H, / / G

Quick frozen Cauliflower

1. Scope and field of application:

This Gulf standard is concerned with quick frozen cauliflower of the species *Brassica oleracea L.var. botrytis L.* and which prepared for direct consumption without further processing, except for repacking (if required) . It doesn't apply to the product which need further processing or for industrial purposes.

2. Complementary standards :

- 2.1 GSO 9 “ Labelling of prepackaged foods” .
- 2.2 GSO 21 “ Hygienic regulations for food plants and their personnel” .
- 2.3 GSO 150 “ Expiration periods at food products “.
- 2.4 GSO 244 “ Methods of test for vegetables , fruits and their products: part 1 :
Organoleptic examination, determination of net weight and drained weight , determination of apparent viscosity , determination of head – space, determination of extraneous matter, defective fruits”.
- 2.5 GSO 323 “ General requirements for transportation and storage of chilled and frozen foods”.
- 2.6 GSO 579 “ Methods of physical and chemical tests of canned vegetable” .
- 2.7 GSO 580 “ Microbiological methods for testing canned vegetables”.
- 2.8 GSO 988 “ Limits of radioactivity levels permitted in foodstuffs – Part 1 ”.
- 2.9 GSO 998 “Methods for detection permissible radionuclides limits in food – Part 1 Gamma spectrometry analysis : A – Cs – 134, Cs – 137 ”.
- 2.10 GSO 1016 “ Microbiological criteria for foodstuffs – part 1”.
- 2.11 GSO 1023 “ Methods of sampling for prepackaged food products”.
- 2.12 GSO / ISO 7558 “Guide to the prepacking of fruits and vegetables” .

3. Definition :

3.1 Quick frozen cauliflower :

Food product prepared from fresh, clean, sound heads cauliflower conforming to the characteristics of the species *Brassica oleracea* L . var. *botrytis* L. which heads may be trimmed and separated into parts and which are washed and sufficiently blanched to ensure stability of colour and flavour during normal marketing cycles, then the product frozen quick freezing process unless and until the product temperature has reached (- 18 °C) at the thermal centre after thermal stabilization .

3.2 Discolouration :

Grey, brown, green or similar discolouration found on the surface of the unit and which materially detracts from the appearance of the product. Branches or stems with a bluish or greenish tinge are not being considered as discoloured.

3.2.1 Light colour : The discolouration disappears almost entirely upon cooking .

3.2.2 Dark colour: the discolouration doesn't disappear upon cooking.

3.3 Blemished :

Pathological or insect injury, and which may extend into the cauliflower.

3.3.1 Minor blemished : the appearance of the unit is only slightly affected.

3.3.2 Major blemished : the appearance of the unit is materially affected

3.3.3 Serious blemished : the appearance of the unit is objectionably affected and it would customarily be discarded under normal culinary preparation .

3.4 Mechanically damaged :

3.4.1 Major : a unit in which more than 50 % of the curd has been mechanically

damaged or is missing (for spit and floret styles) .

3.4.2 Major : a unit in which more than 25 % of the curd has been mechanically damaged or missing (for whole style) .

3.5 Fibrous :

3.5.1 Major : a unit which possesses tough fibres that are quite noticeable and materially affect the eating quality.

3.5.2 Serious : a unit which possesses tough fibers that are objectionable and of such nature that it would be customarily discarded.

3.6 Poorly trimmed :

A unit which has deep – knife gouges or a ragged appearance.

3.7 Leaves:

Coarse green leaves or parts thereof whether or not attached to the unit.

3.8 Fragments :

Portions of the floret 5 mm or less across the greatest dimension.

3.9 Not compact :

A unit in which the florets are spreading, or the flower head has a “ ricey ” appearance or the flower head is very soft or mushy .

3.10 Loose stem :

Each piece of stem exceeding 2.5 cm in length detached from a cauliflower unit.

4. Presentation

4.1 According to Style :

4.1.1 Whole coulfower : the whole , intact head , which is trimmed at the base and which may have attached small, tender, modified leaves.

4.1.2 Split cauliflower : the whole head , cut vertically into two or more sections .

4.1.3 florets : Segments of the head , which may have a portion of the secondary stem. attached measuring at least 12 mm across the top in the greatest dimension. A maximum tolerance of 20 % m / m is permitted for units in which the greatest dimension across the floret is more than 5 m m and less than 12 m m . Small , tender modified leaves may be present or attached to the units .

4.1.4 Other styles :

any other presentation of the product shall be permitted that it :

4.1.4.1 Is sufficiently distinctive from other forms of previously presentation.

4.1.4.2 Meets all other requirements of this standard.

4.1.4.3 Is adequately described on the lable to avoid misleading the consumer.

4.2 *According to sizing :

Note: Frozen cauliflower florets may be presented sized or unsized , and if presented as size graded they shall conform as following :

* When cauliflower is presented as sized, a tolerance of 20 % by weight is permitted as not conforming to the size indicated on the package.

4.2.1 Large florets :

segments of head measuring at least 30 mm across the top in the greatest dimension and of which a portion of secondary stem may be attached . small tender modified leaves may be present or attached to the unit .

4.2.2 Small florets:

Segments of head measuring across the top in the greatest dimension and to which a small portion of secondary stem may be attached between 12 and 30 m m . Small tender modified leaves may be present or attached to the unit .

5. Requirements :

The following requirements shall be met in frozen cauliflower :

5.1 It shall be produced according to the standards and regulations mentioned in the Gulf standards given in (2.2).

5.2 The product shall be uniform white to dark cream colour over the tops of the units which may be slightly dull and have a tinge of green, yellow or pink. The stem or branch portions may be light green or have a tinge of blue.

5.3 The product shall be free from foreign flavour or odour, taking into consideration any added optional ingredients.

5.4 The product shall be clean free from sand, grit and any other foreign materials.

5.5 The product shall be free from discoloured areas confined essentially to the Surface, damaged or blemished areas, fibrous stems, fragments, Coarse green leaves and floret shall be free from loose stems .

5.6 The product shall be reasonably compact and well developed.

5.7 The microbiological requirements shall be as given in the Gulf standard mentioned in (2.10).

5.8 The radiation requirements shall be as given in the Gulf standard mentioned in (2.8) .

5.9 It is permitted citric acid or malic acid as processing aids as for use in the blanching or cooling water according to GMP .

9.10 it is permitted to add salt (Sodium chloride) and condiments , such as Spieces and herbs ..

9.11 The total allowable units of visual defects shall be as in tables number (1) and (2) .

Table (1)
Number of defect units for whole style

Defect unit of measurement			Defect Categories			
			Minor	Major	Serious	Total
1-Discolouration	Light	Each area or combined area of 8cm ²	1			
	Dark	Each area or combined area of 4cm ²		2		
2- Blemished	Minor	Each head	1			
	Major	Each head		2		
	Serious	Each head			4	
3- Mechanically damaged	Major	Each head		2		
4- Fibrous	Major	Each head		2		
	Serious	Each head			4	
5- poorly trimmed leaves		Each head		2		
		Each 2 cm ²		2		
6- not compact		Each area or combined area of 12 cm ²		2		
Total allowable points			10	6	4	10

Table (2)

Number of defect units for split , florets and other styles

Defect	unit of measurement		Defect Categories			
			Minor	Major	Serious	Total
1-Discolouration	Light	Each area or combined area of 8cm ²	1			
	Dark	Each area or combined area 4cm ²		2		
2- Blemished	Minor	Each unit	1			
	Major	Each unit		2		
	Serious	Each unit			4	
3- Mechanically damaged	Major	Each unit		2		
4- Fibrous	Major	Each unit		2		
	Serious	Each unit			4	
5- poorly trimmed		Each unit	1			
6- leaves		Each 2 cm ²		2		
7- fragments		Each 3% m / m		2		
8- not compact		Each area or combined area of 12 cm ²		2		
9- loose stem		Each piece	1			
Total allowable points			25	16	4	25

6. Smapling :

6.1 Sampling shall be carried out according to Gulf Standard mentioned in item (2.11) .

6.2 Standard sample size :

The standard sample size shall be 500 g

Whole style – the minimum number of heads weighting in total at least 500 g.

Split sections – 500 g.

Florets – 500 g .

Other styles – 500 g.

7. Methods of tests and examination:

7.1 Physical and chemical tests shall be according to the Gulf Standard mentioned in (2.6).

7.2 Radioactivity tests shall be according to the Gulf Standard mentioned in (2.8) , (2.9).

7.3 Microbiological tests shall be according to the Gulf standard mentioned in (2.10)

8. Packaging , transportation and storage.

The following shall be met during packaging , transportation and storage :

8.1 Packaging :

8.1.1 The containers shall meet the requirements of Gulf Standard mentioned in ((2.12) .

8.1.2 The container shall be suitable and hygienic to protect the product organoleptic characteristics and quality.

8.1.3 The product shall be packed in containers that prevent moisture loss, and contamination .

8.1.3 The product shall be kept from dehydration .

8.2 Transportation :

8.2.1 Without prejudice to what has been mentioned in Qatari Standard mentioned in item (2.5) .

8.2.2 The product shall be carried out in such way as to protect containers from mechanical damage and contamination .

8.3 Storage :

8.3.1 Without prejudice to what has been mentioned in Qatari Standard mentioned in item (2.5) .

8.3.1 The product shall be stored in well – ventilated stores far from sources of heat and contamination .

9. Labelling :

Without prejudice to what has been mentioned in Gulf Standard mentioned in item (2.1) , and the following information shall be declared on the container's label :

9.1 Statement “ Quick frozen cauliflower” .

9.2 Product style “ whole , split, floret or other styles ”

9.3 Statement “ Kept at temperature not exceed than ($- 18^{\circ}\text{C}$)” .

9.4 Other ingredients added to the product other than salt.

9.5 Floret size otherwise big or small .

9.6 Directions for keeping from the time they are purchased to the time of cooking .

9.7 Colour of cauliflower “ light – Dark” .

References :

Main reference :

Codex Alimentarius Commission

CAC 111 / 1981

Quick frozen cauliflower

Other references

Egyptian Standards

ES 6933 / 2009

Quick frozen cauliflower